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RAW SEQUENCE LISTING   DATE: 04/30/2002
PATENT APPLICATION: US/10/042,872   TIME: 15:43:40

Input Set : A:\UBC1170-1.TXT
Output Set: N:\CRF3\04302002\J042872.raw

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 4 <110> APPLICANT: THE UNIVERSITY OF BRITISH COLUMBIA
 5        Hancock, Robert E. W.
 6        Zhang, Lijuan
 8 <120> TITLE OF INVENTION: ANTIMICROBIAL PEPTIDES AND METHODS OF
 9        USE THEREOF
11 <130> FILE REFERENCE: UBC1170-1
13 <140> CURRENT APPLICATION NUMBER: US 10/042,872
14 <141> CURRENT FILING DATE: 2002-01-08
16 <150> PRIOR APPLICATION NUMBER: US 09/604,864
17 <151> PRIOR FILING DATE: 2000-06-27
19 <160> NUMBER OF SEQ ID NOS: 19
21 <170> SOFTWARE: FastSEQ for Windows Version 4.0
23 <210> SEQ ID NO: 1
24 <211> LENGTH: 17
25 <212> TYPE: PRT
26 <213> ORGANISM: Limulus polyphemus
28 <400> SEQUENCE: 1
29 Trp Cys Phe Ala Val Cys Arg Arg Gly Arg Cys Arg Tyr Lys Cys Arg
30  1               5                   10                  15
31 Arg
34 <210> SEQ ID NO: 2
35 <211> LENGTH: 17
36 <212> TYPE: PRT
37 <213> ORGANISM: Limulus polyphemus
39 <400> SEQUENCE: 2
40 Trp Cys Phe Ala Val Cys Tyr Arg Gly Arg Cys Arg Arg Lys Cys Arg
41  1               5                   10                  15
42 Arg
45 <210> SEQ ID NO: 3
46 <211> LENGTH: 18
47 <212> TYPE: PRT
48 <213> ORGANISM: Limulus polyphemus
50 <400> SEQUENCE: 3
51 Phe Arg Trp Cys Phe Arg Val Cys Tyr Lys Gly Arg Cys Arg Tyr Lys
52  1               5                   10                  15
53 Cys Arg
56 <210> SEQ ID NO: 4
57 <211> LENGTH: 18
58 <212> TYPE: PRT
59 <213> ORGANISM: Limulus polyphemus
61 <400> SEQUENCE: 4
62 Arg Arg Trp Cys Phe Arg Val Cys Tyr Lys Gly Phe Cys Arg Tyr Lys
63  1               5                   10                  15
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 64 Cys Arg
 67 <210> SEQ ID NO: 5
 68 <211> LENGTH: 18
 69 <212> TYPE: PRT
 70 <213> ORGANISM: Limulus polyphemus
 72 <400> SEQUENCE: 5
 73 Arg Arg Trp Cys Phe Arg Val Cys Tyr Arg Gly Phe Cys Arg Tyr Phe
 74  1               5                   10                  15
 75 Cys Arg
 78 <210> SEQ ID NO: 6
 79 <211> LENGTH: 18
 80 <212> TYPE: PRT
 81 <213> ORGANISM: Limulus polyphemus
 83 <400> SEQUENCE: 6
 84 Arg Arg Trp Cys Phe Ile Val Cys Arg Arg Gly Ala Cys Tyr Arg Arg
 85  1               5                   10                  15
 86 Cys Arg
 89 <210> SEQ ID NO: 7
 90 <211> LENGTH: 19
 91 <212> TYPE: PRT
 92 <213> ORGANISM: Limulus polyphemus
 94 <400> SEQUENCE: 7
 95 Arg Arg Trp Cys Phe Ile Val Cys Arg Arg Gly Arg Cys Tyr Val Ala
 96  1               5                   10                  15
 97 Cys Arg Arg
100 <210> SEQ ID NO: 8
101 <211> LENGTH: 18
102 <212> TYPE: PRT
103 <213> ORGANISM: Limulus polyphemus
105 <400> SEQUENCE: 8
106 Arg Val Trp Cys Arg Arg Arg Cys Tyr Arg Gly Phe Cys Arg Tyr Phe
107  1               5                   10                  15
108 Cys Arg
111 <210> SEQ ID NO: 9
112 <211> LENGTH: 18
113 <212> TYPE: PRT
114 <213> ORGANISM: Limulus polyphemus
116 <400> SEQUENCE: 9
117 Arg Val Trp Cys Arg Tyr Arg Cys Tyr Arg Gly Phe Cys Arg Arg Phe
118  1               5                   10                  15
119 Cys Arg
122 <210> SEQ ID NO: 10
123 <211> LENGTH: 18
124 <212> TYPE: PRT
125 <213> ORGANISM: Limulus polyphemus
127 <400> SEQUENCE: 10
128 Arg Arg Trp Cys Arg Arg Val Cys Tyr Ala Gly Phe Cys Tyr Arg Lys
129  1               5                   10                  15
130 Cys Arg
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133 <210> SEQ ID NO: 11
134 <211> LENGTH: 19
135 <212> TYPE: PRT
136 <213> ORGANISM: Limulus polyphemus
138 <400> SEQUENCE: 11
139 Arg Arg Trp Cys Phe Arg Val Cys Tyr Arg Gly Arg Phe Cys Tyr Arg
140 1               5               10              15
141 Lys Cys Arg
144 <210> SEQ ID NO: 12
145 <211> LENGTH: 17
146 <212> TYPE: PRT
147 <213> ORGANISM: Tachypleus tridentatus
149 <400> SEQUENCE: 12
150 Lys Trp Cys Phe Arg Val Cys Tyr Arg Gly Ile Cys Tyr Arg Arg Cys
151 1               5               10              15
152 Arg
155 <210> SEQ ID NO: 13
156 <211> LENGTH: 18
157 <212> TYPE: PRT
158 <213> ORGANISM: Limulus polyphemus
160 <400> SEQUENCE: 13
161 Arg Arg Trp Cys Phe Arg Val Cys Tyr Arg Gly Phe Cys Tyr Arg Lys
162 1               5               10              15
163 Cys Arg
166 <210> SEQ ID NO: 14
167 <211> LENGTH: 17
168 <212> TYPE: PRT
169 <213> ORGANISM: Artificial Sequence
171 <220> FEATURE:
172 <223> OTHER INFORMATION: cationic antimicrobial peptide
W--> 174 <221> NAME/KEY: VARIANT
175 <222> LOCATION: 4
176 <223> OTHER INFORMATION: Xaa is an amino acid having an aromatic side chain or an
aliphatic side chain
W--> 178 <221> VARIANT
179 <222> LOCATION: 7, 13
180 <223> OTHER INFORMATION: Xaa is an amino acid having a basic side chain or an
aromatic side chain
W--> 182 <221> VARIANT
183 <222> LOCATION: 10
184 <223> OTHER INFORMATION: Xaa is an amino acid having a basic side chain
W--> 186 <400> 14
W--> 187 Trp Cys Phe Xaa Val Cys Xaa Arg Gly Xaa Cys Arg Xaa Lys Cys Arg
188 1               5               10              15
189 Arg
192 <210> SEQ ID NO: 15
193 <211> LENGTH: 18
194 <212> TYPE: PRT
195 <213> ORGANISM: Artificial Sequence
197 <220> FEATURE:
198 <223> OTHER INFORMATION: cationic antimicrobial peptide
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RAW SEQUENCE LISTING   DATE: 04/30/2002
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Input Set : A:\UBC1170-1.TXT
Output Set: N:\CRF3\04302002\J042872.raw

W--> 200 <221> NAME/KEY: VARIANT
     201 <222> LOCATION: 1, 12, 16
     202 <223> OTHER INFORMATION: Xaa is an amino acid having a basic side chain or an
aromatic side chain
W--> 204 <221> VARIANT
     205 <222> LOCATION: 10, 14
     206 <223> OTHER INFORMATION: Xaa is an amino acid having a basic side chain
W--> 208 <221> VARIANT
     209 <222> LOCATION: 15
     210 <223> OTHER INFORMATION: Xaa is an amino acid having an aromatic side chain or an
aliphatic side chain
W--> 212 <400> 15
W--> 213 Xaa Arg Trp Cys Phe Arg Val Cys Tyr Xaa Gly Xaa Cys Xaa Xaa Xaa
     214 1   5   10   15
     215 Cys Arg
     218 <210> SEQ ID NO: 16
     219 <211> LENGTH: 19
     220 <212> TYPE: PRT
     221 <213> ORGANISM: Artificial Sequence
     223 <220> FEATURE:
     224 <223> OTHER INFORMATION: cationic antimicrobial peptide
W--> 226 <221> NAME/KEY: VARIANT
     227 <222> LOCATION: 6
     228 <223> OTHER INFORMATION: Xaa is an amino acid having an aromatic side chain or an
aliphatic side chain
W--> 230 <221> VARIANT
     231 <222> LOCATION: 9
     232 <223> OTHER INFORMATION: Xaa is an amino acid having a basic side chain
W--> 234 <221> VARIANT
     235 <222> LOCATION: 12, 15, 16
     236 <223> OTHER INFORMATION: Xaa is Arg, Val, and Ala
W--> 238 <221> VARIANT
     239 <222> LOCATION: 19
     240 <223> OTHER INFORMATION: Xaa is an amino acid having a basic side chain or the
absence of an amino acid
W--> 242 <400> 16
W--> 243 Arg Arg Trp Cys Phe Xaa Val Cys Xaa Arg Gly Xaa Cys Tyr Xaa Xaa
     244 1   5   10   15
W--> 245 Cys Arg Xaa
     248 <210> SEQ ID NO: 17
     249 <211> LENGTH: 18
     250 <212> TYPE: PRT
     251 <213> ORGANISM: Artificial Sequence
     253 <220> FEATURE:
     254 <223> OTHER INFORMATION: cationic antimicrobial peptide
W--> 256 <221> NAME/KEY: VARIANT
     257 <222> LOCATION: 2, 16
     258 <223> OTHER INFORMATION: Xaa is an amino acid having an aromatic side chain or an
aliphatic side chain
W--> 260 <221> VARIANT
     261 <222> LOCATION: 5, 7, 14
     262 <223> OTHER INFORMATION: Xaa is an amino acid having a basic side chain
W--> 264 <221> VARIANT

265 <222> LOCATION: 6, 15

RAW SEQUENCE LISTING   DATE: 04/30/2002
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Input Set : A:\UBC1170-1.TXT
Output Set: N:\CRF3\04302002\J042872.raw

```
      266 <223> OTHER INFORMATION: Xaa is an amino acid having a basic side chain or an
aromatic side chain
W--> 268 <400> 17
W--> 269 Arg Xaa Trp Cys Xaa Xaa Xaa Cys Tyr Arg Gly Phe Cys Xaa Xaa Xaa
      270 1               5                   10                  15
      271 Cys Arg
      274 <210> SEQ ID NO: 18
      275 <211> LENGTH: 18
      276 <212> TYPE: PRT
      277 <213> ORGANISM: Artificial Sequence
      279 <220> FEATURE:
      280 <223> OTHER INFORMATION: cationic antimicrobial peptide
W--> 282 <221> NAME/KEY: VARIANT
      283 <222> LOCATION: 5
      284 <223> OTHER INFORMATION: Xaa is an amino acid having a basic side chain
W--> 286 <221> VARIANT
      287 <222> LOCATION: 10
      288 <223> OTHER INFORMATION: Xaa is an amino acid having an aromatic side chain or an
aliphatic side chain
W--> 290 <400> 18
W--> 291 Arg Arg Trp Cys Xaa Arg Val Cys Tyr Xaa Gly Phe Cys Tyr Arg Lys
      292 1               5                   10                  15
      293 Cys Arg
      296 <210> SEQ ID NO: 19
      297 <211> LENGTH: 19
      298 <212> TYPE: PRT
      299 <213> ORGANISM: Artificial Sequence
      301 <220> FEATURE:
      302 <223> OTHER INFORMATION: cationic antimicrobial peptide
W--> 304 <221> NAME/KEY: VARIANT
      305 <222> LOCATION: 12
      306 <223> OTHER INFORMATION: Xaa is an amino acid having a basic side chain
W--> 308 <400> 19
W--> 309 Arg Arg Trp Cys Phe Arg Val Cys Tyr Arg Gly Xaa Phe Cys Tyr Arg
      310 1               5                   10                  15
      311 Lys Cys Arg
```

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 04/30/2002
PATENT APPLICATION: US/10/042,872   TIME: 15:43:41

Input Set : A:\UBC1170-1.TXT
Output Set: N:\CRF3\04302002\J042872.raw

<u>Please Note:</u>
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:14; Xaa Pos. 4,7,10,13
Seq#:15; Xaa Pos. 1,10,12,14,15,16
Seq#:16; Xaa Pos. 6,9,12,15,16,19
Seq#:17; Xaa Pos. 2,5,6,7,14,15,16
Seq#:18; Xaa Pos. 5,10
Seq#:19; Xaa Pos. 12

<u>Invalid Line Length:</u>
The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:14; Line(s) 176
Seq#:15; Line(s) 210
Seq#:16; Line(s) 228,240
Seq#:17; Line(s) 258
Seq#:18; Line(s) 288

VERIFICATION SUMMARY
PATENT APPLICATION: **US/10/042,872**

DATE: 04/30/2002
TIME: 15:43:41

Input Set : **A:\UBC1170-1.TXT**
Output Set: **N:\CRF3\04302002\J042872.raw**

```
L:174 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:178 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:14
L:182 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:14
L:186 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:14
L:187 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0
L:200 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:204 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:15
L:208 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:15
L:212 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:15
L:213 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0
L:226 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:230 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:16
L:234 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:16
L:238 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:16
L:242 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:16
L:243 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:0
L:245 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:16
L:256 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:260 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:17
L:264 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:17
L:268 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:17
L:269 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:0
L:282 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:286 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:18
L:290 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:18
L:291 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:0
L:304 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:308 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:19
L:309 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19 after pos.:0
```